



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

same, is also $\frac{40!}{36! \cdot 4!} = \frac{40 \cdot 39 \cdot 38 \cdot 37}{1 \cdot 2 \cdot 3 \cdot 4}$.

The number of committees in which the chairman is selected, leaving 39 from whom to choose, is $\frac{39!}{36! \cdot 3!} = \frac{39 \cdot 38 \cdot 37}{6} = 9139$.

Also solved by *G. B. M. ZERR*.

151. Proposed by *JOHN M. COLAW, A. M.*, Monterey, Va.

Solve the equations:

$$\begin{aligned} x + y + z + u + w &= 1, \\ ax + by + cz + du + ew &= h, \\ a^2x + b^2y + c^2z + d^2u + e^2w &= h^2, \\ a^3x + b^3y + c^3z + d^3u + e^3w &= h^3, \\ a^4x + b^4y + c^4z + d^4u + e^4w &= h^4. \end{aligned}$$

Solution by *CLARENCE E. COMSTOCK*, Professor of Mathematics, Bradley Polytechnic Institute, Peoria, Ill.

Solution by determinants.

$$x = \begin{vmatrix} 1 & 1 & 1 & 1 & 1 \\ h & b & c & d & e \\ h^2 & b^2 & c^2 & d^2 & e^2 \\ h^3 & b^3 & c^3 & d^3 & e^3 \\ h^4 & b^4 & c^4 & d^4 & e^4 \end{vmatrix} \div \begin{vmatrix} 1 & 1 & 1 & 1 & 1 \\ a & b & c & d & e \\ a^2 & b^2 & c^2 & d^2 & e^2 \\ a^3 & b^3 & c^3 & d^3 & e^3 \\ a^4 & b^4 & c^4 & d^4 & e^4 \end{vmatrix} \equiv \frac{\Delta_{a=b}}{\Delta}.$$

By the factor theorem, we get

$$\Delta = (a-b)(a-c)(a-d)(a-e)(b-c)(b-d)(b-e)(c-d)(c-e)(d-e).$$

$\Delta_{a=h}$ = the same with a replaced by h .

$$\therefore x = \frac{(h-b)(h-c)(h-d)(h-e)}{(a-b)(a-c)(a-d)(a-e)}.$$

Since a, b, c, d, e appear in the same way, the principle of symmetry enables us to write the values y, z, u, w at once.

$$y = \frac{(h-a)(h-c)(h-d)(h-e)}{(b-a)(b-c)(b-d)(b-e)}, z = \frac{(a-h)(c-h)(d-h)(e-h)}{(b-a)(c-a)(d-a)(e-a)},$$

$$u = \frac{(a-h)(b-h)(c-h)(e-h)}{(a-d)(b-d)(c-d)(e-d)}, \text{ and } w = \frac{(a-h)(b-h)(c-h)(d-h)}{(a-e)(b-e)(c-e)(d-e)}$$

Solved in a similar manner by *G. B. M. ZERR*.

152. Proposed by *G. B. M. ZERR, A. M.*, Ph. D., Professor of Chemistry and Physics in The Temple College, Philadelphia, Pa.

Solve by a short original method, if possible: